



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/007,465 | 12/03/2001 | Thomas Eckel | Mo-6623/LeA 34,860 | 2780 |

157 7590 09/02/2003

BAYER POLYMERS LLC
100 BAYER ROAD
PITTSBURGH, PA 15205

| |
|----------|
| EXAMINER |
|----------|

BUTTNER, DAVID J

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1712

DATE MAILED: 09/02/2003

20

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/007,465

Applicant(s)

ECKEL ET AL.

Examiner

David Buttner

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,4,6-11,13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,4,6-11,13 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 1712

The lined out reference on the 1449 form was not provided with an English explanation.

Claims 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim 9 limits (meth) acrylic alkylates to being 1-50% of (c). Earlier in the claim (meth)acrylic alkylates are listed as possibly being 50-99% of (c). The two phrases are inconsistent. The same problem exists in claim 10.

A homopolymer of methylmethacrylate does not meet the claims because such a polymer has 100% of methacrylic acid alkylate. 100% does not meet the 50-99% limitation. 100% does not meet the 1-50% limitation either.

A copolymer of 75% methylmethacrylate and 25% butylmethacrylate does not meet the claims. Such a polymer has 100% methacrylic acid alkylate. 100% does not meet the 50-99% limitation. 100% does not meet the 1-50% limitation. Perhaps applicant believes one can arbitrarily ignore the butylmethacrylate when calculating the amounts of "styrene, methyl styrene, chlorostyrene and methacrylic C₁- C₈ alkylates" and correspondingly ignore the amount of methylmethacrylate when calculating the amounts of "vinyl cyanides, (meth) acrylic C₁ – C₈ alkylate and unsaturated acids." The examiner does not agree. All the members of the Markush groups must sum to 50-99% and 1-50% respectively.

Art Unit: 1712

If applicant's position was correct, a competitor could use a 75/25 methylmethacrylate/butylmethacrylate copolymer, without infringing the claim. The potential infringer could arbitrarily ignore the methyl methacrylate when calculating 50-99% limitation. 25% butylmethacrylate does not meet the 50-99% limitation. 75% methyl methacrylate does not meet the 1-50% limitation.

Claims 3, 4, 6-11, 13 and 14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gosens '394 Patent.

Gosens exemplifies (No. V) a blend of PC, ABS and phosphate. The ABS has a rubber content of 70% (column 6, line 13). At most, the amount of free (ungrafted) SAN would be 30%. Therefore, the Z ratio must be above 70/30. The notched impact strength must also be met as Gosens uses the same materials in the same amounts as applicant.

Claims 3, 4, 6-11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Eckel '493 or Grigo '960 or Eckel '404 in view of Gosens '394.

Eckel '493 exemplifies (No. 9) a blend of polyester carbonate, MMA/BA grafted polybutadiene and styrene/MAH copolymer. The grafted rubber should not have more than 7% free (ungrafted) copolymer (column 5, line 36). The impact strength at -20°C meets applicant's claim.

Grigo exemplifies (No. 9) a blend of polycarbonate and a graft of 20 parts MMA on 80 parts polybutadiene. Even if little of the MMA grafted to the rubber, the ratio of rubber to free ungrafted PMMA would be 4/1.

Grigo also measures impact strength at -20°C to be 49.5 KJ/M².

Art Unit: 1712

Eckel '404 produces an ABS of high graft yield (column 14, line 45). This results in a blend of SAN grafted to rubber and minor amounts of free SAN. This mixture is then blended with PC (No. 2, 11-13).

Each of the primary references (Eckel '493, column 6, line 54; Grigo, column 10, line 51; Eckel '404 col 13 line 16) suggests the inclusion of flame-retardants, but do not name any species.

Phosphates are well known flame-retardants for PC compositions (see Gosens). It would have been obvious to add any phosphate flame retardant to the primary references for the expected results.

The amended claims now require B) to include a greater than zero amount of vinyl polymer. The amended claims also require a positive amount of phosphorous compound while simultaneously having high impact strength. The previous claims did not require all these limitations simultaneously. This necessitates the following new rejection.

Claims 3, 4, 6-11, 13 and 14 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Kurata '173 Patent.

Kurata exemplifies (No. 15) a blend of 60 PC, 10 SAN, 0.5 phosphorous compound and 30 parts of ABS. This ABS (I-1) has a graft ratio of 75% (column 10, line 38). This ABS has 40 parts polybutadiene contained therein. Based on Kurata's definition of grafting ratio (column 5, line 54), one can determine 30 parts of the monomers actually grafted to the 40 parts of rubber, leaving 30 parts of the monomer as

Art Unit: 1712

free ungrafted copolymer. This means the 30 parts of ABS of example 15 is actually 21 parts grafted rubber and 9 parts ungrafted copolymer.

Inherently, the Z ratio is inherently 21/19. The composition has high impact strength. Also note comparison No. 13 shows similar blends with greater amounts of phosphorous compounds.

Applicant's arguments filed 7/11/03 have been considered but are not persuasive.

Applicant argues none of the cited references describe the "Z" ratio.

Each of the references cited by the examiner inherently meet the "Z" limitation. Gosens (example V) uses ABS – 2 and no additional vinyl copolymer. ABS-2 has a rubber content of 70% (column 6, line 13). 30% must be styrene + acrylonitrile. If all of the styrene and acrylonitrile attaches to the rubber, the Z ratio is 100/0 or infinity. If none attaches to the rubber, the Z ratio is 70/30. It is readily apparent that applicant's Z ratio is met no matter how much of the monomers actually attach to the rubber for Gosens's ABS—2. If the "Z" ratio is met, then the impact strength must also be inherently met. The same analysis can be made for the other references of record.

The "Z" ratio is inherently present in the cited references even if these references did not recognize or calculate "Z" (MPEP 2112).

The declaration of July 11, 2003 attempts to show the importance of the "Z" ratio, but as explained above the references inherently have this value. The declaration does not address the obviousness of adding phosphates to the Grigo or Eckel composition. The closest prior art is not utilized.

Art Unit: 1712

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Buttner whose telephone number is (703) 308-2403. The examiner can normally be reached on weekdays from 10 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on (703) 308-2340. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Application/Control Number: 10/007,465

Page 7

Art Unit: 1712

DAVID J. BUTTNER
PRIMARY EXAMINER

D. Buttner/dh
August 29, 2003

David Buttner